

## SEQUENCE LISTING

&lt;110&gt; Takeda Pharmaceutical Company Limited

&lt;120&gt; PREVENTIVES/REMEDIES FOR CANCER

&lt;130&gt; P04-222PCT

&lt;150&gt; JP 2002-240830

&lt;151&gt; 2002-08-21

&lt;150&gt; JP 2002-363108

&lt;151&gt; 2002-12-13

&lt;150&gt; PCT/JP2003/010532

&lt;151&gt; 2003-08-20

&lt;160&gt; 44

&lt;210&gt; 1

&lt;211&gt; 774

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 1

Met Cys Ala Arg Met Ala Gly Arg Thr Arg Ala Ala Pro Arg Gly Pro

5

10

15

Tyr Gly Pro Trp Leu Cys Leu Leu Val Ala Leu Ala Leu Asp Val Val

20

25

30

Arg Val Asp Cys Gly Gln Ala Pro Leu Asp Pro Val Tyr Leu His Val

35

40

45

Thr Ala Ala Arg Pro Ala Gln Pro Thr Leu Trp Thr Ala Lys Leu Asp

50

55

60

Arg Phe Lys Gly Ser Arg His His Thr Thr Leu Ile Thr Cys His Arg

65

70

75

80

Ala Gly Leu Thr Glu Pro Asp Ser Ser Ser Pro Leu Glu Leu Ser Glu

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Phe Leu Trp Val Asp Phe Val Val Glu Asn Ser Thr Gly Gly Gly Val			
100	105	110	
Ala Val Thr Arg Pro Val Thr Trp Gln Leu Glu Tyr Pro Gly Gln Ala			
115	120	125	
Pro Glu Ala Glu Lys Asp Lys Met Val Trp Glu Ile Leu Val Ser Glu			
130	135	140	
Arg Asp Ile Arg Ala Leu Ile Pro Leu Ala Lys Ala Glu Glu Leu Val			
145	150	155	160
Asn Thr Ala Pro Leu Thr Gly Val Pro Gln His Val Pro Val Arg Leu			
165	170	175	
Val Thr Val Asp Gly Gly Gly Ala Leu Val Glu Val Thr Glu His Val			
180	185	190	
Gly Cys Glu Ser Ala Asn Thr Gln Val Leu Gln Val Ser Glu Ala Cys			
195	200	205	
Asp Ala Val Phe Val Ala Gly Lys Glu Ser Arg Gly Ala Arg Gly Val			
210	215	220	
Arg Val Asp Phe Trp Trp Arg Arg Leu Arg Ala Ser Leu Arg Leu Thr			
225	230	235	240
Val Trp Ala Pro Leu Leu Pro Leu Arg Ile Glu Leu Thr Asp Thr Thr			
245	250	255	
Leu Glu Gln Val Arg Gly Trp Arg Val Pro Gly Pro Ala Glu Gly Pro			
260	265	270	
Ala Glu Pro Ala Ala Glu Ala Ser Asp Glu Ala Glu Arg Arg Ala Arg			
275	280	285	
Gly Cys His Leu Gln Tyr Gln Arg Ala Gly Val Arg Phe Leu Ala Pro			
290	295	300	
Phe Ala Ala His Pro Leu Asp Gly Gly Arg Arg Leu Thr His Leu Leu			
305	310	315	320
Gly Pro Asp Trp Leu Leu Asp Val Ser His Leu Val Ala Pro His Ala			
325	330	335	
Arg Val Leu Asp Ser Arg Val Ala Ser Leu Glu Gly Gly Arg Val Val			
340	345	350	
Val Gly Arg Glu Pro Gly Val Thr Ser Ile Glu Val Arg Ser Pro Leu			
355	360	365	
Ser Asp Ser Ile Leu Gly Glu Gln Ala Leu Ala Val Thr Asp Asp Lys			

370	375	380	
Val Ser Val Leu Glu Leu Arg Val Gln Pro Val Met Gly Ile Ser Leu			
385	390	395	400
Thr Leu Ser Arg Gly Thr Ala His Pro Gly Glu Val Thr Ala Thr Cys			
	405	410	415
Trp Ala Gln Ser Ala Leu Pro Ala Pro Lys Gln Glu Val Ala Leu Ser			
	420	425	430
Leu Trp Leu Ser Phe Ser Asp His Thr Val Ala Pro Ala Glu Leu Tyr			
	435	440	445
Asp Arg Arg Asp Leu Gly Leu Ser Val Ser Ala Glu Glu Pro Gly Ala			
	450	455	460
Ile Leu Pro Ala Glu Glu Gln Gly Ala Gln Leu Gly Val Val Val Ser			
465	470	475	480
Gly Ala Gly Ala Glu Gly Leu Pro Leu His Val Ala Leu His Pro Pro			
	485	490	495
Glu Pro Cys Arg Arg Gly Arg His Arg Val Pro Leu Ala Ser Gly Thr			
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Ala Trp Leu Gly Leu Pro Pro Ala Ser Thr Pro Ala Pro Ala Leu Pro			
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Ser Ser Pro Ala Trp Ser Pro Pro Ala Thr Glu Ala Thr Met Gly Gly			
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Lys Arg Gln Val Ala Gly Ser Val Gly Gly Asn Thr Gly Val Arg Gly			
545	550	555	560
Lys Phe Glu Arg Ala Glu Glu Glu Ala Arg Lys Glu Glu Thr Glu Ala			
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Arg Glu Glu Glu Glu Glu Glu Glu Glu Met Val Pro Ala Pro Gln			
	580	585	590
His Val Thr Glu Leu Glu Leu Gly Met Tyr Ala Leu Leu Gly Val Phe			
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Cys Val Ala Ile Phe Ile Phe Leu Val Asn Gly Val Val Phe Val Leu			
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Pro Gln Pro His Asn Trp Val Trp Leu Gly Thr Asp Gln Glu Glu Leu			
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Ser Arg Gln Leu Asp Arg Gln Ser Pro Gly Pro Pro Lys Gly Glu Gly			

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Ser Cys Pro Cys Glu Ser Gly Gly Gly Glu Ala Pro Thr Leu Ala		
675	680	685
Pro Gly Pro Pro Gly Gly Thr Thr Ser Ser Ser Ser Thr Leu Ala Arg		
690	695	700
Lys Glu Ala Gly Gly Arg Arg Lys Arg Val Glu Phe Val Thr Phe Val		
705	710	715
Pro Ala Pro Pro Ala Gln Ser Pro Glu Glu Pro Val Gly Ala Pro Ala		
725	730	735
Val Gln Ser Ile Leu Val Ala Gly Glu Glu Asp Ile Arg Trp Val Cys		
740	745	750
Glu Asp Met Gly Leu Lys Asp Pro Glu Glu Leu Arg Asn Tyr Met Glu		
755	760	765
Arg Ile Arg Gly Ser Ser		
770		

&lt;210&gt; 2

&lt;211&gt; 2322

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 2

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<210> 3

<211> 2755

<212> DNA

<213> Homo sapiens

<400> 3

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acctgagccg ccgcctcgt cccgccttc tgtgggaagg atgtgcgcgc ggatggccgg 180
tcgcacaaga gcggccccctc gggggcccta cgccccctgg ctctgcctcc tgggtggcct 240

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tgtgacagcc gcccgccag cccagcccac actctggact gccaagctag accgcttcaa	360
gggtccagg caccacacca ccctcatcac ctgccaccgt gctgggctca cagagccaga	420
ttccagcagt ccccttgaac tgtctgagtt cctatgggtg gactttgtgg tggagaatag	480
cactgggtggg ggcgtagcgg tcactcggcc cgtcacgtgg cagctggagt acccaggcca	540
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<210> 4

<211> 909

<212> PRT

<213> Homo sapiens

<400> 4

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Tyr Gly Pro Trp Leu Cys Leu Leu Val Ala Leu Ala Leu Asp Val Val
      20              25              30
Arg Val Asp Cys Gly Gln Ala Pro Leu Asp Pro Val Tyr Leu Pro Ala
      35              40              45
Ala Leu Glu Leu Leu Asp Ala Pro Glu His Phe Arg Val Gln Gln Val
      50              55              60
Gly His Tyr Pro Pro Ala Asn Ser Ser Leu Ser Ser Arg Ser Glu Thr
      65              70              75              80
Phe Leu Leu Leu Gln Pro Trp Pro Arg Ala Gln Pro Leu Leu Arg Ala
      85              90              95
Ser Tyr Pro Pro Phe Ala Thr Gln Gln Val Val Pro Pro Arg Val Thr
      100             105             110
Glu Pro His Gln Arg Pro Val Pro Trp Asp Val Arg Ala Val Ser Val
      115             120             125
Glu Ala Ala Val Thr Pro Ala Glu Pro Tyr Ala Arg Val Leu Phe His
      130             135             140
Leu Lys Gly Gln Asp Trp Pro Pro Gly Ser Gly Ser Leu Pro Cys Ala
      145             150             155             160
Arg Leu His Ala Thr His Pro Ala Gly Thr Ala His Gln Ala Cys Arg
      165             170             175
Phe Gln Pro Ser Leu Gly Ala Cys Val Val Glu Leu Glu Leu Pro Ser

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His Trp Phe Ser Gln Ala Ser Thr Thr Arg Ala Glu Leu Ala Tyr Thr		
195	200	205
Leu Glu Pro Ala Ala Glu Gly Pro Gly Gly Cys Gly Ser Gly Glu Glu		
210	215	220
Asn Asp Pro Gly Glu Gln Ala Leu Pro Val Gly Gly Val Glu Leu Arg		
225	230	235
Pro Ala Asp Pro Pro Gln Tyr Gln Glu Val Pro Leu Asp Glu Ala Val		
245	250	255
Thr Leu Arg Val Pro Asp Met Pro Val Arg Pro Gly Gln Leu Phe Ser		
260	265	270
Ala Thr Leu Leu Leu Arg His Asn Phe Thr Ala Ser Leu Leu Thr Leu		
275	280	285
Arg Ile Lys Val Lys Lys Gly Leu His Val Thr Ala Ala Arg Pro Ala		
290	295	300
Gln Pro Thr Leu Trp Thr Ala Lys Leu Asp Arg Phe Lys Gly Ser Arg		
305	310	315
His His Thr Thr Leu Ile Thr Cys His Arg Ala Gly Leu Thr Glu Pro		
325	330	335
Asp Ser Ser Pro Leu Glu Leu Ser Glu Phe Leu Trp Val Asp Phe Val		
340	345	350
Val Glu Asn Ser Thr Gly Gly Gly Val Ala Val Thr Arg Pro Val Thr		
355	360	365
Trp Gln Leu Glu Tyr Pro Gly Gln Ala Pro Glu Ala Glu Lys Asp Lys		
370	375	380
Met Val Trp Glu Ile Leu Val Ser Glu Arg Asp Ile Arg Ala Leu Ile		
385	390	395
Pro Leu Ala Lys Ala Glu Glu Leu Val Asn Thr Ala Pro Leu Thr Gly		
405	410	415
Val Pro Gln His Val Pro Val Arg Leu Val Thr Val Asp Gly Gly Gly		
420	425	430
Ala Leu Val Glu Val Thr Glu His Val Gly Cys Glu Ser Ala Asn Thr		
435	440	445
Gln Val Leu Gln Val Ser Glu Ala Cys Asp Ala Val Phe Val Ala Gly		
450	455	460
Lys Glu Ser Arg Gly Ala Arg Gly Val Arg Val Asp Phe Trp Trp Arg		



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Arg Leu Arg Ala Ser Leu Arg Leu Thr Val Trp Ala Pro Leu Leu Pro			
485	490	495	
Leu Arg Ile Glu Leu Thr Asp Thr Thr Leu Glu Gln Val Arg Gly Trp			
500	505	510	
Arg Val Pro Gly Pro Ala Glu Gly Pro Ala Glu Pro Ala Ala Glu Ala			
515	520	525	
Ser Asp Glu Ala Glu Arg Arg Ala Arg Gly Cys His Leu Gln Tyr Gln			
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Arg Ala Gly Val Arg Phe Leu Ala Pro Phe Ala Ala His Pro Leu Asp			
545	550	555	560
Gly Gly Arg Arg Leu Thr His Leu Leu Gly Pro Asp Trp Leu Leu Asp			
565	570	575	
Val Ser His Leu Val Ala Pro His Ala Arg Val Leu Asp Ser Arg Val			
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Ala Ser Leu Glu Gly Gly Arg Val Val Val Gly Arg Glu Pro Gly Val			
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Thr Ser Ile Glu Val Arg Ser Pro Leu Ser Asp Ser Ile Leu Gly Glu			
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Gln Ala Leu Ala Val Thr Asp Asp Lys Val Ser Val Leu Glu Leu Arg			
625	630	635	640
Val Gln Pro Val Met Gly Ile Ser Leu Thr Leu Ser Arg Gly Thr Ala			
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His Pro Gly Glu Val Thr Ala Thr Cys Trp Ala Gln Ser Ala Leu Pro			
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Ala Pro Lys Gln Glu Val Ala Leu Ser Leu Trp Leu Ser Phe Ser Asp			
675	680	685	
His Thr Val Ala Pro Ala Glu Leu Tyr Asp Arg Arg Asp Leu Gly Leu			
690	695	700	
Ser Val Ser Ala Glu Glu Pro Gly Ala Ile Leu Pro Ala Glu Glu Gln			
705	710	715	720
Gly Ala Gln Leu Gly Val Val His Val Thr Glu Leu Glu Leu Gly Met			
725	730	735	
Tyr Ala Leu Leu Gly Val Phe Cys Val Ala Ile Phe Ile Phe Leu Val			
740	745	750	
Asn Gly Val Val Phe Val Leu Arg Tyr Gln Arg Lys Glu Pro Pro Asp			

755	760	765
Ser Ala Thr Asp Pro Thr Ser Pro Gln Pro His Asn Trp Val Trp Leu		
770	775	780
Gly Thr Asp Gln Glu Glu Leu Ser Arg Gln Leu Asp Arg Gln Ser Pro		
785	790	795
Gly Pro Pro Lys Gly Glu Gly Ser Cys Pro Cys Glu Ser Gly Gly Gly		
805	810	815
Gly Glu Ala Pro Thr Leu Ala Pro Gly Pro Pro Gly Gly Thr Thr Ser		
820	825	830
Ser Ser Ser Thr Leu Ala Arg Lys Glu Ala Gly Gly Arg Arg Lys Arg		
835	840	845
Val Glu Phe Val Thr Phe Ala Pro Ala Pro Pro Ala Gln Ser Pro Glu		
850	855	860
Glu Pro Val Gly Ala Pro Ala Val Gln Ser Ile Leu Val Ala Gly Glu		
865	870	875
Glu Asp Ile Arg Trp Val Cys Glu Asp Met Gly Leu Lys Asp Pro Glu		
885	890	895
Glu Leu Arg Asn Tyr Met Glu Arg Ile Arg Gly Ser Ser		
900	905	

&lt;210&gt; 5

&lt;211&gt; 2727

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5

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&lt;210&gt; 6

&lt;211&gt; 2778

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 6

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<210> 7

<211> 594

<212> PRT

<213> Homo sapiens

<400> 7

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      20              25              30
Arg Val Asp Cys Gly Gln Ala Pro Leu Asp Pro Gly Leu His Val Thr
      35              40              45
Ala Ala Arg Pro Ala Gln Pro Thr Leu Trp Thr Ala Lys Leu Asp Arg
      50              55              60
Phe Lys Gly Ser Arg His His Thr Thr Leu Ile Thr Cys His Arg Ala
      65              70              75              80
Gly Leu Thr Glu Pro Asp Ser Ser Ser Pro Leu Glu Leu Ser Glu Phe

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	85		90		95
Leu Trp Val Asp Phe Val Val Glu Asn Ser Thr Gly Gly Gly Val Ala					
100		105		110	
Val Thr Arg Pro Val Thr Trp Gln Leu Glu Tyr Pro Gly Gln Ala Pro					
115		120		125	
Glu Ala Glu Lys Asp Lys Met Val Trp Glu Ile Leu Val Ser Glu Arg					
130		135		140	
Asp Ile Arg Ala Leu Ile Pro Leu Ala Lys Ala Glu Glu Leu Val Asn					
145		150		155	160
Thr Ala Pro Leu Thr Gly Val Pro Gln His Val Pro Val Arg Leu Val					
165		170		175	
Thr Val Asp Gly Gly Gly Ala Leu Val Glu Val Thr Glu His Val Gly					
180		185		190	
Cys Glu Ser Ala Asn Thr Gln Val Leu Gln Val Ser Glu Ala Cys Asp					
195		200		205	
Ala Val Phe Val Ala Gly Lys Glu Ser Arg Gly Ala Arg Gly Val Arg					
210		215		220	
Val Asp Phe Trp Trp Arg Arg Leu Arg Ala Ser Leu Arg Leu Thr Val					
225		230		235	240
Trp Ala Pro Leu Leu Pro Leu Arg Ile Glu Leu Thr Asp Thr Thr Leu					
245		250		255	
Glu Gln Val Arg Gly Trp Arg Val Pro Gly Pro Ala Glu Gly Pro Ala					
260		265		270	
Glu Pro Ala Ala Glu Ala Ser Asp Glu Ala Glu Arg Arg Ala Arg Gly					
275		280		285	
Cys His Leu Gln Tyr Gln Arg Ala Gly Val Arg Phe Leu Ala Pro Phe					
290		295		300	
Ala Ala His Pro Leu Asp Gly Gly Arg Arg Leu Thr His Leu Leu Gly					
305		310		315	320
Pro Asp Trp Leu Leu Asp Val Ser His Leu Val Ala Pro His Ala Arg					
325		330		335	
Val Leu Asp Ser Arg Val Ala Ser Leu Glu Gly Gly Arg Val Val Val					
340		345		350	
Gly Arg Glu Pro Gly Val Thr Ser Ile Glu Val Arg Ser Pro Leu Ser					
355		360		365	
Asp Ser Ile Leu Gly Glu Gln Ala Leu Ala Val Thr Asp Asp Lys Val					

370	375	380	
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385	390	395	400
Leu Ser Arg Gly Thr Ala His Pro Gly Glu Val Thr Ala Thr Cys Trp			
405	410	415	
Ala Gln Ser Ala Leu Pro Ala Pro Lys Gln Glu Val Ala Leu Ser Leu			
420	425	430	
Trp Leu Ser Phe Ser Asp His Thr Val Ala Pro Ala Glu Leu Tyr Asp			
435	440	445	
Arg Arg Asp Leu Gly Leu Ser Val Ser Ala Glu Glu Pro Gly Ala Ile			
450	455	460	
Leu Pro Ala Glu Glu Gln Gly Ala Gln Leu Gly Val Val Val Ser Gly			
465	470	475	480
Ala Gly Ala Glu Gly Leu Pro Leu His Val Ala Leu His Pro Pro Glu			
485	490	495	
Pro Cys Arg Arg Gly Arg His Arg Val Pro Leu Ala Ser Gly Thr Ala			
500	505	510	
Trp Leu Gly Leu Pro Pro Ala Ser Thr Pro Ala Pro Ala Leu Pro Ser			
515	520	525	
Ser Pro Ala Trp Ser Pro Pro Ala Thr Glu Ala Thr Met Gly Gly Lys			
530	535	540	
Arg Gln Val Ala Gly Ser Val Gly Gly Asn Thr Gly Val Arg Gly Lys			
545	550	555	560
Phe Glu Arg Ala Glu Glu Glu Ala Arg Lys Glu Glu Thr Glu Ala Arg			
565	570	575	
Asp Gly Gly Gly Gly Arg Gly Gly Gly Asp Gly Pro Cys Pro Ser Ala			
580	585	590	

Cys His

&lt;210&gt; 8

&lt;211&gt; 1782

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 8

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<210> 9

<211> 2735

<212> DNA

<213> Homo sapiens

<400> 9



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<210> 10

<211> 639

<212> PRT

<213> Homo sapiens

<400> 10

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      20              25              30
Val Pro Gln His Val Pro Val Arg Leu Val Thr Val Asp Gly Gly Gly
      35              40              45
Ala Leu Val Glu Val Thr Glu His Val Gly Cys Glu Ser Ala Asn Thr
      50              55              60
Gln Val Leu Gln Val Ser Glu Ala Cys Asp Ala Val Phe Val Ala Gly
      65              70              75              80
Lys Glu Ser Arg Gly Ala Arg Gly Val Arg Val Asp Phe Trp Trp Arg
      85              90              95
Arg Leu Arg Ala Ser Leu Arg Leu Thr Val Trp Ala Pro Leu Leu Pro
      100             105             110
Leu Arg Ile Glu Leu Thr Asp Thr Thr Leu Glu Gln Val Arg Gly Trp
      115             120             125
Arg Val Pro Gly Pro Ala Glu Gly Pro Ala Glu Pro Ala Ala Glu Ala
      130             135             140
Ser Asp Glu Ala Glu Arg Arg Ala Arg Gly Cys His Leu Gln Tyr Gln

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180	185	190	
Val Ser His Leu Val Ala Pro His Ala Arg Val Leu Asp Ser Arg Val			
195	200	205	
Ala Ser Leu Glu Gly Gly Arg Val Val Val Gly Arg Glu Pro Gly Val			
210	215	220	
Thr Ser Ile Glu Val Arg Ser Pro Leu Ser Asp Ser Ile Leu Gly Glu			
225	230	235	240
Gln Ala Leu Ala Val Thr Asp Asp Lys Val Ser Val Leu Glu Leu Arg			
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Val Gln Pro Val Met Gly Ile Ser Leu Thr Leu Ser Arg Gly Thr Ala			
260	265	270	
His Pro Gly Glu Val Thr Ala Thr Cys Trp Ala Gln Ser Ala Leu Pro			
275	280	285	
Ala Pro Lys Gln Glu Val Ala Leu Ser Leu Trp Leu Ser Phe Ser Asp			
290	295	300	
His Thr Val Ala Pro Ala Glu Leu Tyr Asp Arg Arg Asp Leu Gly Leu			
305	310	315	320
Ser Val Ser Ala Glu Glu Pro Gly Ala Ile Leu Pro Ala Glu Glu Gln			
325	330	335	
Gly Ala Gln Leu Gly Val Val Val Ser Gly Ala Gly Ala Glu Gly Leu			
340	345	350	
Pro Leu His Val Ala Leu His Pro Pro Glu Pro Cys Arg Arg Gly Arg			
355	360	365	
His Arg Val Pro Leu Ala Ser Gly Thr Ala Trp Leu Gly Leu Pro Pro			
370	375	380	
Ala Ser Thr Pro Ala Pro Ala Leu Pro Ser Ser Pro Ala Trp Ser Pro			
385	390	395	400
Pro Ala Thr Glu Ala Thr Met Gly Gly Lys Arg Gln Val Ala Gly Ser			
405	410	415	
Val Gly Gly Asn Thr Gly Val Arg Gly Lys Phe Glu Arg Ala Glu Glu			
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Glu Ala Arg Lys Glu Glu Thr Lys Ala Arg Glu Glu Glu Glu Glu			

435                      440                      445  
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 450                      455                      460  
 Gly Met Tyr Ala Leu Leu Gly Val Phe Cys Val Ala Ile Phe Ile Phe  
 465                      470                      475                      480  
 Leu Val Asn Gly Val Val Phe Val Leu Arg Tyr Gln Arg Lys Glu Pro  
 485                      490                      495  
 Pro Asp Ser Ala Thr Asp Pro Thr Ser Pro Gln Pro His Asn Trp Val  
 500                      505                      510  
 Trp Leu Gly Thr Asp Gln Glu Glu Leu Ser Arg Gln Leu Asp Arg Gln  
 515                      520                      525  
 Ser Pro Gly Pro Pro Lys Gly Glu Gly Ser Cys Pro Cys Glu Ser Gly  
 530                      535                      540  
 Gly Gly Gly Glu Ala Pro Thr Leu Ala Pro Gly Pro Pro Gly Gly Thr  
 545                      550                      555                      560  
 Thr Ser Ser Ser Ser Thr Leu Ala Arg Lys Glu Ala Gly Gly Arg Arg  
 565                      570                      575  
 Lys Arg Val Glu Phe Val Thr Phe Ala Pro Ala Pro Pro Ala Gln Ser  
 580                      585                      590  
 Pro Glu Glu Pro Val Gly Ala Pro Ala Val Gln Ser Ile Leu Val Ala  
 595                      600                      605  
 Gly Glu Glu Asp Ile Arg Trp Val Cys Glu Asp Met Gly Leu Lys Asp  
 610                      615                      620  
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 625                      630                      635

<210> 11

<211> 1917

<212> DNA

<213> Homo sapiens

<400> 11

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<210> 12

<211> 2235

<212> DNA

<213> Homo sapiens

<400> 12

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caaggctgag gagctggtga atacagcacc actgactgga gtgccccagc atgtccccgt	180
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ccagcgggcc ggtgtgcgct tcctcgcgcc ctctcgggcc caccgctgg acggcggccg	600
ccgcctcacg cacctgcttg gccccgactg gctgctagac gtgtcccacc tcgtggcgcc	660
acacgccccg gtgctggact cgggtgtagc ctctctggag ggtggccgtg tcgtggtggg	720
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cgagaaggaa accag

2235

&lt;210&gt; 13

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Designed oligonucleotide

&lt;400&gt; 13

agaccacacc attgaccaag

20

&lt;210&gt; 14

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Designed oligonucleotide

&lt;400&gt; 14

gaaccagtta ccacaccaga

20

&lt;210&gt; 15

&lt;211&gt; 1024

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 15

Met Cys Ala Arg Met Ala Gly Arg Thr Thr Ala Ala Pro Arg Gly Pro

5

10

15

Tyr Gly Pro Trp Leu Cys Leu Leu Val Ala Leu Ala Leu Asp Val Val

20

25

30

Arg Val Asp Cys Gly Gln Ala Pro Leu Asp Pro Val Tyr Leu Pro Ala

35

40

45

Ala Leu Glu Leu Leu Asp Ala Pro Glu His Phe Arg Val Gln Gln Val  
 50 55 60  
 Gly His Tyr Pro Pro Ala Asn Ser Ser Leu Ser Ser Arg Ser Glu Thr  
 65 70 75 80  
 Phe Leu Leu Leu Gln Pro Trp Pro Arg Ala Gln Pro Leu Leu Arg Ala  
 85 90 95  
 Ser Tyr Pro Pro Phe Ala Thr Gln Gln Val Val Pro Pro Arg Val Thr  
 100 105 110  
 Glu Pro His Gln Arg Pro Val Pro Trp Asp Val Arg Ala Val Ser Val  
 115 120 125  
 Glu Ala Ala Val Thr Pro Ala Glu Pro Tyr Ala Arg Val Leu Phe His  
 130 135 140  
 Leu Lys Gly Gln Asp Trp Pro Pro Gly Ser Gly Ser Leu Pro Cys Ala  
 145 150 155 160  
 Arg Leu His Ala Thr His Pro Ala Gly Thr Ala His Gln Ala Cys Arg  
 165 170 175  
 Phe Gln Pro Ser Leu Gly Ala Cys Val Val Glu Leu Glu Leu Pro Ser  
 180 185 190  
 His Trp Phe Ser Gln Ala Ser Thr Thr Arg Ala Glu Leu Ala Tyr Thr  
 195 200 205  
 Leu Glu Pro Ala Ala Glu Gly Pro Gly Gly Cys Gly Ser Gly Glu Glu  
 210 215 220  
 Asn Asp Pro Gly Glu Gln Ala Leu Pro Val Gly Gly Val Glu Leu Arg  
 225 230 235 240  
 Pro Ala Asp Pro Pro Gln Tyr Gln Glu Val Pro Leu Asp Glu Ala Val  
 245 250 255  
 Thr Leu Arg Val Pro Asp Met Pro Val Arg Pro Gly Gln Leu Phe Ser  
 260 265 270  
 Ala Thr Leu Leu Leu Arg His Asn Phe Thr Ala Ser Leu Leu Thr Leu  
 275 280 285  
 Arg Ile Lys Val Lys Lys Gly Leu His Val Thr Ala Ala Arg Pro Ala  
 290 295 300  
 Gln Pro Thr Leu Trp Thr Ala Lys Leu Asp Arg Phe Lys Gly Ser Arg  
 305 310 315 320  
 His His Thr Thr Leu Ile Thr Cys His Arg Ala Gly Leu Thr Glu Pro  
 325 330 335



Asp Ser Ser Ser Pro Leu Glu Leu Ser Glu Phe Leu Trp Val Asp Phe			
340	345	350	
Val Val Glu Asn Ser Thr Gly Gly Gly Val Ala Val Thr Arg Pro Val			
355	360	365	
Thr Trp Gln Leu Glu Tyr Pro Gly Gln Ala Pro Glu Ala Glu Lys Asp			
370	375	380	
Lys Met Val Trp Glu Ile Leu Val Ser Glu Arg Asp Ile Arg Ala Leu			
385	390	395	400
Ile Pro Leu Ala Lys Ala Glu Glu Leu Val Asn Thr Ala Pro Leu Thr			
405	410	415	
Gly Val Pro Gln His Val Pro Val Arg Leu Val Thr Val Asp Gly Gly			
420	425	430	
Gly Ala Leu Val Glu Val Thr Glu His Val Gly Cys Glu Ser Ala Asn			
435	440	445	
Thr Gln Val Leu Gln Val Ser Glu Ala Cys Asp Ala Val Phe Val Ala			
450	455	460	
Gly Lys Glu Ser Arg Gly Ala Arg Gly Val Arg Val Asp Phe Trp Trp			
465	470	475	480
Arg Arg Leu Arg Ala Ser Leu Arg Leu Thr Val Trp Ala Pro Leu Leu			
485	490	495	
Pro Leu Arg Ile Glu Leu Thr Asp Thr Thr Leu Glu Gln Val Arg Gly			
500	505	510	
Trp Arg Val Pro Gly Pro Ala Glu Gly Pro Ala Glu Pro Ala Ala Glu			
515	520	525	
Ala Ser Asp Glu Ala Glu Arg Arg Ala Arg Gly Cys His Leu Gln Tyr			
530	535	540	
Gln Arg Ala Gly Val Arg Phe Leu Ala Pro Phe Ala Ala His Pro Leu			
545	550	555	560
Asp Gly Gly Arg Arg Leu Thr His Leu Leu Gly Pro Asp Trp Leu Leu			
565	570	575	
Asp Val Ser His Leu Val Ala Pro His Ala Arg Val Leu Asp Ser Arg			
580	585	590	
Val Ala Ser Leu Glu Gly Gly Arg Val Val Val Gly Arg Glu Pro Gly			
595	600	605	
Val Thr Ser Ile Glu Val Arg Ser Pro Leu Ser Asp Ser Ile Leu Gly			
610	615	620	

Glu Gln Ala Leu Ala Val Thr Asp Asp Lys Val Ser Val Leu Glu Leu			
625	630	635	640
Arg Val Gln Pro Val Met Gly Ile Ser Leu Thr Leu Ser Arg Gly Thr			
	645	650	655
Ala His Pro Gly Glu Val Thr Ala Thr Cys Trp Ala Gln Ser Ala Leu			
	660	665	670
Pro Ala Pro Lys Gln Glu Val Ala Leu Ser Leu Trp Leu Ser Phe Ser			
	675	680	685
Asp His Thr Val Ala Pro Ala Glu Leu Tyr Asp Arg Arg Asp Leu Gly			
	690	695	700
Leu Ser Val Ser Ala Glu Glu Pro Gly Ala Ile Leu Pro Ala Glu Glu			
705	710	715	720
Gln Gly Ala Gln Leu Gly Val Val Val Ser Gly Ala Gly Ala Glu Gly			
	725	730	735
Leu Pro Leu His Val Ala Leu His Pro Pro Glu Pro Cys Arg Arg Gly			
	740	745	750
Arg His Arg Val Pro Leu Ala Ser Gly Thr Ala Trp Leu Gly Leu Pro			
	755	760	765
Pro Ala Ser Thr Pro Ala Pro Ala Leu Pro Ser Ser Pro Ala Trp Ser			
	770	775	780
Pro Pro Ala Thr Glu Ala Thr Met Gly Gly Lys Arg Gln Val Ala Gly			
785	790	795	800
Ser Val Gly Gly Asn Thr Gly Val Arg Gly Lys Phe Glu Arg Ala Glu			
	805	810	815
Glu Glu Ala Arg Lys Glu Glu Thr Glu Ala Arg Glu Glu Glu Glu Glu			
	820	825	830
Glu Glu Glu Glu Met Val Pro Ala Pro Gln His Val Thr Glu Leu Glu			
	835	840	845
Leu Gly Met Tyr Ala Leu Leu Gly Val Phe Cys Val Ala Ile Phe Ile			
	850	855	860
Phe Leu Val Asn Gly Val Val Phe Val Leu Arg Tyr Gln Arg Lys Glu			
865	870	875	880
Pro Pro Asp Ser Ala Thr Asp Pro Thr Ser Pro Gln Pro His Asn Trp			
	885	890	895
Val Trp Leu Gly Thr Asp Gln Glu Glu Leu Ser Arg Gln Leu Asp Arg			
	900	905	910

Gln Ser Pro Gly Pro Pro Lys Gly Glu Gly Ser Cys Pro Cys Glu Ser  
           915                    920                    925  
 Gly Gly Gly Gly Glu Ala Pro Thr Leu Ala Pro Gly Pro Pro Gly Gly  
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 Thr Thr Ser Ser Ser Ser Thr Leu Ala Arg Lys Glu Ala Gly Gly Arg  
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 Arg Lys Arg Val Glu Phe Val Thr Phe Val Pro Ala Pro Pro Ala Gln  
                     965                    970                    975  
 Ser Pro Glu Glu Pro Val Gly Ala Pro Ala Val Gln Ser Ile Leu Val  
                     980                    985                    990  
 Ala Gly Glu Glu Asp Ile Arg Trp Val Cys Glu Asp Met Gly Leu Lys  
           995                    1000                    1005  
 Asp Pro Glu Glu Leu Arg Asn Tyr Met Glu Arg Ile Arg Gly Ser Ser  
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<210> 16

<211> 3072

<212> DNA

<213> Homo sapiens

<400> 16

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tgggacgtgc gggccgttcc agtgaagcg gctgtgactc cagcagagcc ctacgcccg	420
gttctcttcc acctcaaagg gcaggattgg ccaccagggt ctggcagcct gccctgtgcc	480
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cggggcagct cc

3072

&lt;210&gt; 17

&lt;211&gt; 1020

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 17

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Leu Cys Leu Leu Val Ala Leu Ala Leu Asp Val Val Arg Val Asp Cys
      20              25              30
Gly Gln Ala Pro Leu Asp Pro Val Tyr Leu Pro Ala Ala Leu Glu Leu
      35              40              45
Leu Asp Ala Pro Glu His Phe Arg Val Gln Gln Val Gly His Tyr Pro
      50              55              60
Pro Ala Asn Ser Ser Leu Ser Ser Arg Ser Glu Thr Phe Leu Leu Leu
      65              70              75              80
Gln Pro Trp Pro Arg Ala Gln Pro Leu Leu Arg Ala Ser Tyr Pro Pro
      85              90              95
Phe Ala Thr Gln Gln Val Val Pro Pro Arg Val Thr Glu Pro His Gln
      100             105             110
Arg Pro Val Pro Trp Asp Val Arg Ala Val Ser Val Glu Ala Ala Val
      115             120             125
Thr Pro Ala Glu Pro Tyr Ala Arg Val Leu Phe His Leu Lys Gly Gln
      130             135             140
Asp Trp Pro Pro Gly Ser Gly Ser Leu Pro Cys Ala Arg Leu His Ala
      145             150             155             160
Thr His Pro Ala Gly Thr Ala His Gln Ala Cys Arg Phe Gln Pro Ser
      165             170             175
Leu Gly Ala Cys Val Val Glu Leu Glu Leu Pro Ser His Trp Phe Ser
      180             185             190
Gln Ala Ser Thr Thr Arg Ala Glu Leu Ala Tyr Thr Leu Glu Pro Ala
      195             200             205
Ala Glu Gly Pro Gly Gly Cys Gly Ser Gly Glu Glu Asn Asp Pro Gly
      210             215             220

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Gly Pro Ala Glu Gly Pro Ala Glu Pro Ala Ala Glu Ala Ser Asp Glu  
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 Ala Glu Arg Arg Ala Arg Gly Cys His Leu Gln Tyr Gln Arg Ala Gly  
 530 535 540  
 Val Arg Phe Leu Ala Pro Phe Ala Ala His Pro Leu Asp Gly Gly Arg  
 545 550 555 560  
 Arg Leu Thr His Leu Leu Gly Pro Asp Trp Leu Leu Asp Val Ser His  
 565 570 575  
 Leu Val Ala Pro His Ala Arg Val Leu Asp Ser Arg Val Ala Ser Leu  
 580 585 590  
 Glu Gly Gly Arg Val Val Val Gly Arg Glu Pro Gly Val Thr Ser Ile  
 595 600 605  
 Glu Val Arg Ser Pro Leu Ser Asp Ser Ile Leu Gly Glu Gln Ala Leu  
 610 615 620  
 Ala Val Thr Asp Asp Lys Val Ser Val Leu Glu Leu Arg Val Gln Pro  
 625 630 635 640  
 Val Met Gly Ile Ser Leu Thr Leu Ser Arg Gly Thr Ala His Pro Gly  
 645 650 655  
 Glu Val Thr Ala Thr Cys Trp Ala Gln Ser Ala Leu Pro Ala Pro Lys  
 660 665 670  
 Gln Glu Val Ala Leu Ser Leu Trp Leu Ser Phe Ser Asp His Thr Val  
 675 680 685  
 Ala Pro Ala Glu Leu Tyr Asp Arg Arg Asp Leu Gly Leu Ser Val Ser  
 690 695 700  
 Ala Glu Glu Pro Gly Ala Ile Leu Pro Ala Glu Glu Gln Gly Ala Gln  
 705 710 715 720  
 Leu Gly Val Val Val Ser Gly Ala Gly Ala Glu Gly Leu Pro Leu His  
 725 730 735  
 Val Ala Leu His Pro Pro Glu Pro Cys Arg Arg Gly Arg His Arg Val  
 740 745 750  
 Pro Leu Ala Ser Gly Thr Ala Trp Leu Gly Leu Pro Pro Ala Ser Thr  
 755 760 765  
 Pro Ala Pro Ala Leu Pro Ser Ser Pro Ala Trp Ser Pro Pro Ala Thr  
 770 775 780  
 Glu Ala Thr Met Gly Gly Lys Arg Gln Val Ala Gly Ser Val Gly Gly  
 785 790 795 800

Asn Thr Gly Val Arg Gly Lys Phe Glu Arg Ala Glu Glu Glu Ala Arg  
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 Lys Glu Glu Thr Glu Ala Arg Glu Glu Glu Glu Glu Glu Glu Glu  
                             820                            825                            830  
 Met Val Pro Ala Pro Gln His Val Thr Glu Leu Glu Leu Gly Met Tyr  
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                             850                            855                            860  
 Gly Val Val Phe Val Leu Arg Tyr Gln Arg Lys Glu Pro Pro Asp Ser  
 865                            870                            875                            880  
 Ala Thr Asp Pro Thr Ser Pro Gln Pro His Asn Trp Val Trp Leu Gly  
                             885                            890                            895  
 Thr Asp Gln Glu Glu Leu Ser Arg Gln Leu Asp Arg Gln Ser Pro Gly  
                             900                            905                            910  
 Pro Pro Lys Gly Glu Gly Ser Cys Pro Cys Glu Ser Gly Gly Gly Gly  
                             915                            920                            925  
 Glu Ala Pro Thr Leu Ala Pro Gly Pro Pro Gly Gly Thr Thr Ser Ser  
                             930                            935                            940  
 Ser Ser Thr Leu Ala Arg Lys Glu Ala Gly Gly Arg Arg Lys Arg Val  
 945                            950                            955                            960  
 Glu Phe Val Thr Phe Val Pro Ala Pro Pro Ala Gln Ser Pro Glu Glu  
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 Pro Val Gly Ala Pro Ala Val Gln Ser Ile Leu Val Ala Gly Glu Glu  
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 Asp Ile Arg Trp Val Cys Glu Asp Met Gly Leu Lys Asp Pro Glu Glu  
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                             1010                            1015                            1020

&lt;210&gt; 18

&lt;211&gt; 3060

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 18

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tacctgccgg	cagccctgga	gtccttagac	gcccctgaac	acttccgtgt	gcagcaggtg	180
ggccactacc	cacctgccaa	ctcctctctg	agctcccgat	ctgagacctt	tctgtctcta	240
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&lt;210&gt; 22

<211> 1019

&lt;212&gt; PRT

<213> Homo sapiens

&lt;400&gt; 22

Met Ala Gly Arg Thr Thr Ala Ala Pro Arg Gly Pro Tyr Gly Pro Trp

15

Leu Cys Leu Leu Val Ala Leu Ala Leu Asp Val Val Arg Val Asp Cys

30

Gly Gln Ala Pro Leu Asp Pro Val Tyr Leu Pro Ala Ala Leu Glu Leu

45

Leu Asp Ala Pro Glu His Phe Arg Val Gln Gln Val Gly His Tyr Pro

50	55	60
Pro Ala Asn Ser Ser Leu Ser Ser Arg Ser Glu Thr Phe Leu Leu Leu		
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Gln Pro Trp Pro Arg Ala Gln Pro Leu Leu Arg Ala Ser Tyr Pro Pro		
85	90	95
Phe Ala Thr Gln Gln Val Val Pro Pro Arg Val Thr Glu Pro His Gln		
100	105	110
Arg Pro Val Pro Trp Asp Val Arg Ala Val Ser Val Glu Ala Ala Val		
115	120	125
Thr Pro Ala Glu Pro Tyr Ala Arg Val Leu Phe His Leu Lys Gly Gln		
130	135	140
Asp Trp Pro Pro Gly Ser Gly Ser Leu Pro Cys Ala Arg Leu His Ala		
145	150	155
Thr His Pro Ala Gly Thr Ala His Gln Ala Cys Arg Phe Gln Pro Ser		
165	170	175
Leu Gly Ala Cys Val Val Glu Leu Glu Leu Pro Ser His Trp Phe Ser		
180	185	190
Gln Ala Ser Thr Thr Arg Ala Glu Leu Ala Tyr Thr Leu Glu Pro Ala		
195	200	205
Ala Glu Gly Pro Gly Gly Cys Gly Ser Gly Glu Glu Asn Asp Pro Gly		
210	215	220
Glu Gln Ala Leu Pro Val Gly Gly Val Glu Leu Arg Pro Ala Asp Pro		
225	230	235
Pro Gln Tyr Gln Glu Val Pro Leu Asp Glu Ala Val Thr Leu Arg Val		
245	250	255
Pro Asp Met Pro Val Arg Pro Gly Gln Leu Phe Ser Ala Thr Leu Leu		
260	265	270
Leu Gln His Asn Phe Thr Ala Ser Leu Leu Thr Leu Arg Ile Lys Val		
275	280	285
Lys Lys Gly Leu His Val Thr Ala Ala Arg Pro Ala Gln Pro Thr Leu		
290	295	300
Trp Thr Ala Lys Leu Asp Arg Phe Lys Gly Ser Arg His His Thr Thr		
305	310	315
Leu Ile Thr Cys His Arg Ala Gly Leu Thr Glu Pro Asp Ser Ser Pro		
325	330	335
Leu Glu Leu Ser Glu Phe Leu Trp Val Asp Phe Val Val Glu Asn Ser		

340	345	350
Thr Gly Gly Gly Val Ala Val Thr Arg Pro Val Thr Trp Gln Leu Glu		
355	360	365
Tyr Pro Gly Gln Ala Pro Glu Ala Glu Lys Asp Lys Met Val Trp Glu		
370	375	380
Ile Leu Val Ser Glu Arg Asp Ile Arg Ala Leu Ile Pro Leu Ala Lys		
385	390	395
Ala Glu Glu Leu Val Asn Thr Ala Pro Leu Thr Gly Val Pro Gln His		
405	410	415
Val Pro Val Arg Leu Val Thr Val Asp Gly Gly Gly Ala Leu Val Glu		
420	425	430
Val Thr Glu His Val Gly Cys Glu Ser Ala Asn Thr Gln Val Leu Gln		
435	440	445
Val Ser Glu Ala Cys Asp Ala Val Phe Val Ala Gly Lys Glu Ser Arg		
450	455	460
Gly Ala Arg Gly Val Arg Val Asp Phe Trp Trp Arg Arg Leu Arg Ala		
465	470	475
Ser Leu Arg Leu Thr Val Trp Ala Pro Leu Leu Pro Leu Arg Ile Glu		
485	490	495
Leu Thr Asp Thr Thr Leu Glu Gln Val Arg Gly Trp Arg Val Pro Gly		
500	505	510
Pro Ala Glu Gly Pro Ala Glu Pro Ala Ala Glu Ala Ser Asp Glu Ala		
515	520	525
Glu Arg Arg Ala Arg Gly Cys His Leu Gln Tyr Gln Arg Ala Gly Val		
530	535	540
Arg Phe Leu Ala Pro Phe Ala Ala His Pro Leu Asp Gly Gly Arg Arg		
545	550	555
Leu Thr His Leu Leu Gly Pro Asp Trp Leu Leu Asp Val Ser His Leu		
565	570	575
Val Ala Pro His Ala Arg Val Leu Asp Ser Arg Val Ala Ser Leu Glu		
580	585	590
Gly Gly Arg Val Val Val Gly Arg Glu Pro Gly Val Thr Ser Ile Glu		
595	600	605
Val Arg Ser Pro Leu Ser Asp Ser Ile Leu Gly Glu Gln Ala Leu Ala		
610	615	620
Val Thr Asp Asp Lys Val Ser Val Leu Glu Leu Arg Val Gln Pro Val		

625	630	635	640
Met Gly Ile Ser Leu Thr Leu Ser Arg Gly Thr Ala His Pro Gly Glu			
	645	650	655
Val Thr Ala Thr Cys Trp Ala Gln Ser Ala Leu Pro Ala Pro Lys Gln			
	660	665	670
Glu Val Ala Leu Ser Leu Trp Leu Ser Phe Ser Asp His Thr Val Ala			
	675	680	685
Pro Ala Glu Leu Tyr Asp Arg Arg Asp Leu Gly Leu Ser Val Ser Ala			
	690	695	700
Glu Glu Pro Gly Ala Ile Leu Pro Ala Glu Glu Gln Gly Ala Gln Leu			
705	710	715	720
Gly Val Val Val Ser Gly Ala Gly Ala Glu Gly Leu Pro Leu His Val			
	725	730	735
Ala Leu His Pro Pro Glu Pro Cys Arg Arg Gly Arg His Arg Val Pro			
	740	745	750
Leu Ala Ser Gly Thr Ala Trp Leu Gly Leu Pro Pro Ala Ser Thr Pro			
	755	760	765
Ala Pro Ala Leu Pro Ser Ser Pro Ala Trp Ser Pro Pro Ala Thr Glu			
	770	775	780
Ala Thr Met Gly Gly Lys Arg Gln Val Ala Gly Ser Val Gly Gly Asn			
785	790	795	800
Thr Gly Val Arg Gly Lys Phe Glu Arg Ala Glu Glu Glu Ala Arg Lys			
	805	810	815
Glu Glu Thr Lys Pro Arg Glu Glu Glu Glu Glu Glu Glu Glu Met			
	820	825	830
Val Pro Ala Pro Gln His Val Thr Glu Leu Glu Leu Gly Met Tyr Ala			
	835	840	845
Leu Leu Gly Val Phe Cys Val Ala Ile Phe Ile Phe Leu Val Asn Gly			
	850	855	860
Val Val Phe Val Leu Arg Tyr Gln Arg Lys Glu Pro Pro Asp Ser Ala			
865	870	875	880
Thr Asp Pro Thr Ser Pro Gln Pro His Asn Trp Val Trp Leu Gly Thr			
	885	890	895
Asp Gln Glu Glu Leu Ser Arg Gln Leu Asp Arg Gln Ser Pro Gly Pro			
	900	905	910
Pro Lys Gly Glu Gly Ser Cys Pro Cys Glu Ser Gly Gly Gly Glu			

915	920	925
Ala Pro Thr Leu Ala Pro Gly Pro Pro Gly Gly Thr Thr Ser Ser Ser		
930	935	940
Ser Thr Leu Ala Arg Lys Glu Ala Gly Gly Arg Arg Lys Arg Val Glu		
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Phe Val Thr Phe Ala Pro Ala Pro Pro Ala Gln Ser Pro Glu Glu Pro		
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		975
Val Gly Ala Pro Ala Val Gln Ser Ile Leu Val Ala Gly Glu Glu Asp		
980	985	990
Ile Arg Trp Val Cys Glu Asp Met Gly Leu Lys Asp Pro Glu Glu Leu		
995	1000	1005
Arg Asn Tyr Met Glu Arg Ile Arg Gly Ser Ser		
1010	1015	

&lt;210&gt; 23

&lt;211&gt; 3057

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 23

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caggtggtcc cccctcgagt cactgagccc caccaacggc cagtcccatg ggacgtgcgg	360
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&lt;210&gt; 24

&lt;211&gt; 3502

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 24

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<210> 25

<211> 1023

<212> PRT

<213> Homo sapiens

<400> 25



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 Tyr Gly Pro Trp Leu Cys Leu Leu Val Ala Leu Ala Leu Asp Val Val  
                   20                                  25                                  30  
 Arg Val Asp Cys Gly Gln Ala Pro Leu Asp Pro Val Tyr Leu Pro Ala  
                   35                                  40                                  45  
 Ala Leu Glu Leu Leu Asp Ala Pro Glu His Phe Arg Val Gln Gln Val  
                   50                                  55                                  60  
 Gly His Tyr Pro Pro Ala Asn Ser Ser Leu Ser Ser Arg Ser Glu Thr  
                   65                                  70                                  75                                  80  
 Phe Leu Leu Leu Gln Pro Trp Pro Arg Ala Gln Pro Leu Leu Arg Ala  
                                   85                                  90                                  95  
 Ser Tyr Pro Pro Phe Ala Thr Gln Gln Val Val Pro Pro Arg Val Thr  
                   100                                  105                                  110  
 Glu Pro His Gln Arg Pro Val Pro Trp Asp Val Arg Ala Val Ser Val  
                   115                                  120                                  125  
 Glu Ala Ala Val Thr Pro Ala Glu Pro Tyr Ala Arg Val Leu Phe His  
                   130                                  135                                  140  
 Leu Lys Gly Gln Asp Trp Pro Pro Gly Ser Gly Ser Leu Pro Cys Ala  
                   145                                  150                                  155                                  160  
 Arg Leu His Ala Thr His Pro Ala Gly Thr Ala His Gln Ala Cys Arg  
                   165                                  170                                  175  
 Phe Gln Pro Ser Leu Gly Ala Cys Val Val Glu Leu Glu Leu Pro Ser  
                   180                                  185                                  190  
 His Trp Phe Ser Gln Ala Ser Thr Thr Arg Ala Glu Leu Ala Tyr Thr  
                   195                                  200                                  205  
 Leu Glu Pro Ala Ala Glu Gly Pro Gly Gly Cys Gly Ser Gly Glu Glu  
                   210                                  215                                  220  
 Asn Asp Pro Gly Glu Gln Ala Leu Pro Val Gly Gly Val Glu Leu Arg  
                   225                                  230                                  235                                  240  
 Pro Ala Asp Pro Pro Gln Tyr Gln Glu Val Pro Leu Asp Glu Ala Val  
                   245                                  250                                  255  
 Thr Leu Arg Val Pro Asp Met Pro Val Arg Pro Gly Gln Leu Phe Ser  
                   260                                  265                                  270  
 Ala Thr Leu Leu Leu Arg His Asn Phe Thr Ala Ser Leu Leu Thr Leu  
                   275                                  280                                  285

Arg Ile Lys Val Lys Lys Gly Leu His Val Thr Ala Ala Arg Pro Ala			
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Gln Pro Thr Leu Trp Thr Ala Lys Leu Asp Arg Phe Lys Gly Ser Arg			
305	310	315	320
His His Thr Thr Leu Ile Thr Cys His Arg Ala Gly Leu Thr Glu Pro			
	325	330	335
Asp Ser Ser Pro Leu Glu Leu Ser Glu Phe Leu Trp Val Asp Phe Val			
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Val Glu Asn Ser Thr Gly Gly Gly Val Ala Val Thr Arg Pro Val Thr			
	355	360	365
Trp Gln Leu Glu Tyr Pro Gly Gln Ala Pro Glu Ala Glu Lys Asp Lys			
	370	375	380
Met Val Trp Glu Ile Leu Val Ser Glu Arg Asp Ile Arg Ala Leu Ile			
385	390	395	400
Pro Leu Ala Lys Ala Glu Glu Leu Val Asn Thr Ala Pro Leu Thr Gly			
	405	410	415
Val Pro Gln His Val Pro Val Arg Leu Val Thr Val Asp Gly Gly Gly			
	420	425	430
Ala Leu Val Glu Val Thr Glu His Val Gly Cys Glu Ser Ala Asn Thr			
	435	440	445
Gln Val Leu Gln Val Ser Glu Ala Cys Asp Ala Val Phe Val Ala Gly			
	450	455	460
Lys Glu Ser Arg Gly Ala Arg Gly Val Arg Val Asp Phe Trp Trp Arg			
465	470	475	480
Arg Leu Arg Ala Ser Leu Arg Leu Thr Met Trp Ala Pro Leu Leu Pro			
	485	490	495
Leu Arg Ile Glu Leu Thr Asp Thr Thr Leu Glu Gln Val Arg Gly Trp			
	500	505	510
Arg Val Pro Gly Pro Ala Glu Gly Pro Ala Glu Pro Ala Ala Glu Ala			
	515	520	525
Ser Asp Glu Ala Glu Arg Arg Ala Arg Gly Cys His Leu Gln Tyr Gln			
	530	535	540
Arg Ala Gly Val Arg Phe Leu Ala Pro Phe Ala Ala His Pro Leu Asp			
545	550	555	560
Gly Gly Arg Arg Leu Thr His Leu Leu Gly Pro Asp Trp Leu Leu Asp			
	565	570	575

Val Ser His Leu Val Ala Pro His Ala Arg Val Leu Asp Ser Arg Val			
580	585	590	
Ala Ser Leu Glu Gly Gly Arg Val Val Val Gly Arg Glu Pro Gly Val			
595	600	605	
Thr Ser Ile Glu Val Arg Ser Pro Leu Ser Asp Ser Ile Leu Gly Glu			
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Gln Ala Leu Ala Val Thr Asp Asp Lys Val Ser Val Leu Glu Leu Arg			
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Val Gln Pro Val Met Gly Ile Ser Leu Thr Leu Ser Arg Gly Thr Ala			
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His Pro Gly Glu Val Thr Ala Thr Cys Trp Ala Gln Ser Ala Leu Pro			
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Ala Pro Lys Gln Glu Val Ala Leu Ser Leu Trp Leu Ser Phe Ser Asp			
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His Thr Val Ala Pro Ala Glu Leu Tyr Asp Arg Arg Asp Leu Gly Leu			
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Ser Val Ser Ala Glu Glu Pro Gly Ala Ile Leu Pro Ala Glu Glu Gln			
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Gly Ala Gln Leu Gly Val Val Val Ser Gly Ala Gly Ala Glu Gly Leu			
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Pro Leu His Val Ala Leu His Pro Pro Glu Pro Cys Arg Arg Gly Arg			
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Val Gly Gly Asn Thr Gly Val Arg Gly Lys Phe Glu Arg Ala Glu Glu			
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Glu Ala Arg Lys Glu Glu Thr Lys Pro Arg Glu Glu Glu Glu Glu Glu			
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Glu Glu Glu Met Val Pro Ala Pro Gln His Val Thr Glu Leu Glu Leu			
835	840	845	
Gly Met Tyr Ala Leu Leu Gly Val Phe Cys Val Ala Ile Phe Ile Phe			
850	855	860	

Leu Val Asn Gly Val Val Phe Val Leu Arg Tyr Gln Arg Lys Glu Pro  
 865                                      870                                      875                                      880  
 Pro Asp Ser Ala Thr Asp Pro Thr Ser Pro Gln Pro His Asn Trp Val  
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 Trp Leu Gly Thr Asp Gln Glu Glu Leu Ser Arg Gln Leu Asp Arg Gln  
                                     900                                      905                                      910  
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<213> Homo sapiens

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<211> 1019

&lt;212&gt; PRT

<213> Homo sapiens

&lt;400&gt; 27

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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 28

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<213> Homo sapiens

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